Remarks

In the Office Action, dated October 31, 2006, claims 22-82 were examined. Claims 33-34 were objected to. Claims 22-25, 28, 30-34, 38, 43, 44, 47, 51, 52, 59 and 78-82 were rejected under 35 U.S.C. 102(e) as being anticipated by Stefan et al., U.S. Patent No. 6,760,821 (herein referred to as Stefan). Claims 26, 27, 29, 35-37, 39-41, 45, 46, 48-50, 53-58, and 60-77 were objected to as being dependent upon a rejected base claim.

In this Response, Claims 22, 27, 29, 33, 34, and 80-82 were amended. Independent Claim 83 was added. No new matter has been added by this amendment. Accordingly, Claims 22-83 are currently pending.

Applicants thank Examiner for acknowledging the following papers: Application on 12/04/2003, Information Disclosure Statement on 06/21/2004, Information Disclosure Statement on 01/09/2006, Request for Status of Application on 06/12/2006, and Response to Restriction on 07/21/2006.

Election/Restrictions

1. Claim 1-21 were previously withdrawn without traverse pursuant to 37 CRF 1.142(b).

Applicants thank Examiner for acknowledging the Response to Restriction on 07/21/2006.

Claim Objections

1. Claims 33 and 34 were objected to for informalities.

Applicants respectfully submit that the informalities are cured by the present amendment.

Regarding Claim 33, the phrase "said 'find and left mark' command" at line 4 of the claim has been changed to "said 'find and mark left' command." The phrase "wherein said 'find' command" at line 5 of the claim has been changed to "wherein said 'find and mark left' command."

Regarding Claim 34, the phrase "said 'match' command" at line 5 of the claim has been changed to "said 'match and mark left' command." The phrase "wherein said 'match' command" at line 6 of the claim has been changed to "wherein said 'match and mark left' command."

Claim Rejections - 35 USC §112

1. Claim 80 was rejected under 35 USC §112 as being indefinite for failing to particularly point out and distinctively claim the subject matter.

Applicants respectfully submit that Claim 80, as amended, is supported by the originally filed application. The written description states, at page 3 of the originally filed application:

> "A key field of fixed size, is attached to all data stored in most associative memory devices. A search key may then be utilized to select a specific data field, or plurality of data fields whose attached key field(s) match the search key, from within the associative memory device, irrespective of their named location, for subsequent processing in accordance with directed instructions."

As such, an associative memory device includes a key field of fixed size and an attached data field in each of the *n*- cells. The associative memory device addresses its data bits by the nature or intrinsic quality of the information stored therein. The data stored in each of the *n*- cells is selected if the attached key field matches the search key. In view of the foregoing, Applicants thank Examiner for considering this explanation.

2. Claim 80 was rejected under 35 USC §112, because it is unclear which one of the previously mentioned key fields is being referred to.

Applicants respectfully submit Claim 80, as amended, is clear as to which one of the two previously mentioned key fields is being referred to. In particular, the limitation refers to the respective key field attached to the data field. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection to Claim 80.

Claim Rejections - 35 USC §102

1. Claims 22-25, 28, 30-34, 38, 43, 44, 47, 51, 52, 59, and 78-80 were rejected under 35 USC §102(e) as being anticipated by Stefan.

Applicants respectfully submit that Claim 22, as amended, is not anticipated by Stefan. The data processing system of the present invention includes a vector memory containing *p*-vectors, each of *p*- vectors has the same storage capacity as the associative memory device. The associative memory device has *n*- cells, each of the *n*- cells has a processing circuit and *m*- bits of memory capacity. The data processing system of the present invention also has a controller for issuing one of a plurality instructions to the associative memory device. The plurality of

instructions issued by the controller includes a "right limit" command. On page 11 of the Office Action, it is asserted that the data indicated by the "right limit" command "ha[s] not been found in the prior art and would not have been obvious as the instructions are unique to the architecture of Applicant's data processing system." Since Claims 23-25, 28, 30-34, 38, 43, 44, 47, 51, 52, 59, and 78-80 are dependent upon base Claim 22, Applicants respectfully submit that Stefan does not anticipate Claims 23-25, 28, 30-34, 38, 43, 44, 47, 51, 52, 59, and 78-80. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection to Claim 22-25, 28, 30-34, 38, 43, 44, 47, 51, 52, 59, and 78-80 under §102(e).

2. Claim 81 was rejected under 35 USC §102(e) as being anticipated by Stefan.

Applicants respectfully disagree but to further prosecution have amended independent Claim 81 to more clearly distinguish the present invention over Stefan. Claim 81 has been amended recite a method of processing data, said method comprising the steps of: forming an associative memory device to contain *n*- cells; configuring each of said *n*- cells to include a processing circuit, the processing circuit performs a plurality of operations; issuing one of a plurality of instructions from a controller to said associative memory device; utilizing a clock device for outputting a synchronizing clock signal comprised of a predetermined number of clock cycles per second, said clock device outputting said synchronizing clock signal to said associative memory device and said controller; and globally communicating one of said plurality of instructions from said controller to all of said *n*- cells simultaneously, within one of said clock cycles. Unlike the present invention, Stefan does not teach an associative memory device whose cells, by selectively acting as both a processor and a memory device, do not need to rely on processors and external memory to perform a plurality of computations. In the present invention, the processing circuit in each of the *n*- cells of the associative memory device performs comparison, addition, subtraction, and bitwise logic operations. In contrast, the circuit of Stefan only performs comparison operations. Specifically, Stefan (column 17, lines 45-49) states "The COMP circuit 55 is a combinational circuit generating a 1 on its one-bit output only when the symbol present on the date-in input signals 10 is equal with the N-bit contents of the cell and which are carried by the signals right-cell-out 59." In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection to Claim 81 under §102(e).

3. Claim 82 was rejected under 35 USC §102(e) as being anticipated by Stefan.

Applicants respectfully disagree but to further prosecution have amended independent Claim 82 to more clearly distinguish the present invention over Stefan. As explained above, unlike the present invention, Stefan does not teach a processing circuit that performs a plurality of computations within each of the *n*- cells of a memory device. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection to Claim 82 §102(e).

Allowable Subject Matter

1. Claims 26, 27, 29, 35-37, 39-42, 45, 46, 48-50, 53-58, and 60-77 are of allowable subject matter but were objected to as being dependent upon a rejected base claim.

Since Claim 22, as amended, includes the allowable subject matter, it is allowable over the teachings of Stefan. Claims 26, 27, 29, 35-37, 39-42, 45, 46, 48-50, 53-58, and 60-77 are dependent on base Claim 22, Applicants respectfully submit that Claims 26, 27, 29, 35-37, 39-42, 45, 46, 48-50, 53-58, and 60-77 are in a condition for allowance.

New Independent Claim 83

Applicants added new independent Claim 83, which recites a data processing system, said data processing system comprising: an associative memory device containing *n*-cells, each of said *n*-cells including a processing circuit and *m*- bits of memory capacity, the processing circuit performs a plurality of computations; a controller for issuing one of a plurality of instructions to said associative memory device; a clock device for outputting a synchronizing clock signal comprised of a predetermined number of clock cycles per second, said clock device outputting and synchronizing clock signal to said associative memory device and said controller; and wherein said controller globally communicates one of said plurality of instructions to all of said *n*-cells simultaneously, within one of said clock cycles. As explained above, unlike the present invention, Stefan does not teach a processing circuit that performs a plurality of computations within each of the *n*- cells of a memory device. In view of the foregoing, Applicants respectfully submit that Claim 83 is allowed.

CONCLUSION

For at least the reasons given above, Applicants respectfully submit that all pending claims, namely Claims 22-83, are in condition for allowance, and allowance at an early date would be appreciated. The Examiner and/or the foreign associate are encouraged to call the undersigned at (408) 530-9700, or fax at (408) 530-9797, with any questions or comments so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
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